



Financial engineering, including investment approaches for leveraging financing from different sources



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Introduction: Attracting sustainable finance

- An early involvement of relevant stakeholders (development partners, private sector, science/research/education, public bodies, banks;
- Embedment of NAMAs into national and sectorial strategies of host countries
- Institutional capacities coordinate NAMA process
- Regulatory and policy framework, national cofinance;
- Attract private investments
- Ease of doing business index



- Different sources of finance; bilateral and multilateral finance, national development banks, and private sources are available for NAMAs.
- Tailoring of financing instruments to the needs of different countries. Can include a combination of project financing, commercial loans, promotional loans, development loans, microfinancing, grants, debt and/or equity instruments, guarantee, etc.
- Potential for replicability
- Instruments to reduce risks in development of new technologies (barrier reduction) and improve return on investment for private investments that require profit



- US\$ 209 billion investment flows needed to meet the projected growth in demand for agricultural products (alone) in 2050 (FAO, 2009)
- Alternative sources of financing to supplement existing sources, or repackaging existing sources
- Traditional separation of mitigation and adaptation in funding sources has hindered investments in activities that generate synergies between the two; a key facet of Climate Smart Agriculture (CSA)



- Opportunities for certification: "climate proof fair trade" NTFP and agricultural production
- Products leave sufficient percentage for sustainable living for workers
- Climate proofed production conditions
- Part of funds used for climate proof housing, awareness and education facilities
- Alternative livelihoods that avoid emissions and/or store carbon



- Projects in different sectors have different risk profiles
- Energy supply projects benefit from predictions of power consumption
- Data collection, comparison and analysis in the AFOLU sector, participation and access to data of stakeholders
- Energy efficiency and renewable energies (esp. hydropower) easier to measure specifically within the sector
- Buildings and climate change cost effective emission reductions and energy savings of more than 30% are possible in many countries (UNEP).



The Climate Policy Initiative (CPI) risk gap analyses suggested "currently, gaps in risk coverage hinder renewable energy investments. Risk — whether real or perceived — is in fact the single most important factor preventing renewable energy projects from finding financial investors, or raising the returns that these investors demand. It is also one thing that policymakers can cause, control, alleviate, or help mitigate."



- Growth potential in recycling, waste management,
- Waste into fertilisers e.g. bio-ash into "fertiliser nuggets", binding ash in a process with waste water that already has nitrogen and phosphates
- Agricultural waste and forestry residue turned into energy pellets
- Capturing urban dust to avoid health risks etc



- Climate Smart Agriculture (CSA) as an example of investing sustainably in Climate Resilient Land Management (CRLM)
- Current agricultural investment flows are insufficient to adequately finance sustainable agricultural development
- Climate finance can play an important role in meeting the CSA investment gap,



- GEF-6 CCM strategy; cross-sectoral and mitigation/adaptation synergies
- Priority setting of the Green Climate Fund
- Barriers and disincentives to invest in activities that support sustainable agricultural growth include: credit and insurance markets, extension services and technical packages, gender, tenure, value chains.
- Potential costs of mal-mitigation and mal-adaptation



Examples for Laos re NAMA and mitigation development (and synergies with adaptation)

- Agroforestry
- ANR
- Biochar
- Solar
- Fuel efficient cooking stoves
- Drying kilns and food storage facilities
- But also cross-sectoral linkages
- Biodiversity awareness
- Information, extension, database management.



Assisted Natural Regeneration (ANR) of forest ecosystems

- ANR can be a sustainable investment for the public and private sector to invest in developing watershed services e.g. for hydropower.
- ANR is a faster and more cost-efficient way of forest regeneration
- 65% forest cover, watershed services, biodiversity and food security
- Involves fire breaks, identification of required tree species, and their protection, and/or removal of unwanted species, pressing down e.g. imperata, training local (village, district etc) stakeholders.



- Root system already in place
- Trees can be selected based on community needs as well as national and private sector objectives
- Participation and negotiation between public, private, and local forest managers



Agroforestry

- Agroforestry can balance mitigation and adaptation.
- Agroforestry pilots and/or policy framework NAMAs or a combination of both suitable for Laos
- Country specific. Labor requirements, extension, hedgerows, rotation of crops, science/policy dialogue etc.
- Requirements for more input can be outweighed with technology advancements such as drying, storage, climate proofed housing, etc. advancements.



Thank you!

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